DOCUMENT RESUME

ED 403 879 IR 018 235

AUTHOR Schnackenberg, Heidi L.; And Others
TITLE View the Zoo! Evaluation of Visual Communication in an Outdoor Educational Setting.
PUB DATE Feb 97
NOTE 7p.; Paper presented at the Annual Meeting of the Association for Educational Communications and Technology (Albuquerque, NM, February 12-16, 1997).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Communication Research; *Educational Facilities; Educational Facilities Design; Educational Quality; Graphic Arts; *Information Dissemination; Interviews; Observation; *Outdoor Education; Program Effectiveness; *Signs; Surveys; *Visual Aids; Visual Learning; Visual Stimuli; *Zoos
IDENTIFIERS Arizona (Phoenix); Customer Satisfaction; Phoenix Zoo AZ; Reptiles; *Visual Communication

ABSTRACT

Almost all of what people learn from outdoor educational settings such as zoos and gardens stems from the exhibits themselves or signs about the exhibits. Evaluation of the various forms of visual communication in outdoor educational settings is necessary to determine the effectiveness of exhibitions, educational activities, and/or conservation programs. A preliminary study was conducted at the Phoenix Zoo, in the Arizona Trail--Reptile Section, to determine visitor use and satisfaction. Study techniques included pre- and post-viewing surveys, interviews, and observation of visitors. The most frequently described fact that visitors remembered was the information contained on a sign developed by a school group explaining the difference between "venomous" and "poisonous." In contrast to other signs in the exhibit, this sign contained a clear, simple message beginning with a thought-provoking question. Many visitors do not read the small signs accompanying exhibits, possibly because of their placement height and small print. Guidelines suggested to help designers improve the effectiveness of visual communication in this type of setting include: (1) arouse learner curiosity with a simple, thought-provoking question or title: (2) supply a succinct answer below the question; (3) use simple, clear language; (4) use large, clear text; (5) keep text to a minimum; (6) utilize pictures and graphics to help learners see to what the text is referring. (Author/SWC)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 403 879

Heidi L. Schnackenberg
Wilhelmina C. Savenye
Arizona State University
Harry Jones
The Phoenix Zoo
e-mail: heidi@imap1.asu.edu

Arizona State University
Division of Psychology in Education
PO Box 870611
Tempe, AZ 85287-0611
(phone) 602-965-3384
(fax) 602-965-0300

# VIEW THE ZOO!
# EVALUATION OF VISUAL COMMUNICATION IN AN OUTDOOR EDUCATIONAL SETTING

Paper presented at the annual meeting of the
Association for Educational Communications and Technology
Albuquerque, NM February 1997

**Purpose and Rationale:**

Much of what people learn from outdoor educational settings, i.e. zoos and gardens, is based on what they see and read. Almost all of the communication in places such as zoos and gardens stems from the exhibits themselves or signs about the exhibits. Often, the expressiveness and educational power of an exhibit depends upon the effectiveness of the form of visual communication being utilized. Therefore, evaluation of the various forms of visual communication in outdoor educational settings is necessary in order to determine the effectiveness of exhibitions, educational activities, and/or conservation programs.

The mission of The Phoenix Zoo is to "inspire people to live in ways that promote the well-being of the natural world". As part of it's Strategic Plan, The Zoo intends to integrate the collection of visitor data for decision-making throughout all phases of development. In order to do this, The Zoo secured the services of the authors of this paper to conduct a small-scale preliminary study to determine visitor use and satisfaction related to one component of The Arizona Trail, The Reptile Section. Study data were collected to answer the following questions:

1. How often do visitors to the Reptile Section of The Arizona Trail visit The Zoo and where do they come from?
2. What are their reasons for visiting The Zoo and this Trail?
3. How clearly do visitors understand that they are entering The Arizona Trail and the Reptile Section?
4. What are visitors' expectations of their visit to the Reptile Section?
5. What is their interest in reptiles? What do they most want to know about reptiles?
6. What do visitors learn from their experience with the Reptile Section? What do they most want to know? Is their anything they wished they had learned, but didn't?
7. What do visitors think about the Reptile Section and what suggestions do they have for improvements?
8. How long, on average, do visitors spend viewing the inside and outside components of the Reptile Section exhibits?

IR018435

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Heidi Schnackenberg
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."



BEST COPY AVAILABLE

9. How do visitors use the Reptile Section? What behaviors do they engage in during their visit?

**Method:**

The study was conducted during the month of July, 1995, during all hours of the day, weekdays and weekends, with most data collected during the mornings. Data were collected using questionnaires, interviews, and observations of visitors. These methods are described below. It should be noted that the weather was typical for Phoenix during this season, that is, generally sunny and hot.

*Pre-Viewing Surveys*

A sample of visitors was interviewed immediately after they entered The Arizona Trail to determine their preconceptions and expectations about viewing the Reptile Section. An eight-item questionnaire called the "Pre-Viewing Survey" was developed for this purpose. Visitors answered questions about the frequency of their visits to the Zoo, where they live, understanding of The Arizona Trail, reason for visiting The Zoo and The Arizona Trail, clarity about the Reptile Section, expectations of their visit to the Reptile Section, and their interests related to reptiles.

*Post-Viewing Surveys*

In support of the Zoo's mission to communicate effectively with visitors about the natural world, a sample of visitors was interviewed after they had viewed the Reptile Section to determine their attitudes toward the exhibit, what they felt they learned from it, and visitor suggestions for improving the Reptile Section. A nine-item questionnaire was developed for this part of the front-end evaluation study. Visitors were asked what they found out from viewing the Reptile Section, what they most wanted to know about reptiles, and what they wished they had learned about reptiles from this exhibit. They were also asked to rate the exhibit and describe whether it caught their attention, whether they found the reptiles easy to see, and their perceptions about the signs in the exhibit. Finally, visitors were asked about their suggestions for helping The Zoo improve the Reptile Section.

*Targeted Visitor Observations*

Two types of targeted observations were conducted:

*Time Spent Viewing the Reptile Section* - A large sample of visitors was observed to determine the average time visitors spent, during summer, viewing the inside and outside sections of the exhibit.

*How Visitors Use the Reptile Section* - Another large sample of visitors was observed carefully to determine the types of behaviors visitors engage in while they visit the Reptile Section.

**Findings:**

In this paper, a summary of the findings is reported. The presentation will summarize all of the findings.

*What did visitors learn from the Reptile Section?*

In response to the question, "What are the main things you found out from viewing the Reptile Exhibit?" on the post-viewing survey, visitors described various aspects of the exhibit. It is worth noting that about one-fourth (8 of 30) of these visitors described that they learned the difference between "venomous" and "poisonous", information highlighted by a sign made by a local elementary school class. Many visitors described things they had learned about snakes by reading the exhibit signs, including, how many different kinds of rattlesnakes there are (4), what snakes eat (3), where snakes live in Arizona (2), how big the snakes are (2), which snakes are venomous and which are not (1), and about snakes' habitat (1). A few visitors mention they'd learned the names of the animals (3), what different animals look like (1), and about scorpions (1). Finally, four visitors said they didn't find out anything in particular, but had just looked at the animals (4), and one said he or she had learned nothing new, having taken a tour of the exhibit earlier.

*What do visitors think about the Reptile Section and what suggestions do they have for improvements?*

When asked what they thought of the signs in the Reptile Section, sixteen of 26 visitors made positive comments, including "good" or "okay" (8), informative (5), liked the maps on the signs (2), and easy for children to understand (1). Ten visitors made suggestions including that the signs are too small, print is too small, or are hard to notice (4), need to be lower in order for them to be easier to read (3); some are missing (1); are boring (1); or should say something about diet or living conditions (1).

Visitors were also asked their suggestions for helping The Zoo improve the Reptile Section. Nineteen suggestions were made, while 13 visitors responded, "None". Suggestions were relatively specific (and sometimes conflicting) and some of them included:

Suggestions about signs:

- make signs bigger and more attractive (similar to venomous/poisonous sign) (3)
- put signs down lower so that they're easier to see (1)
- get talking systems for people who have problems reading
- put lights on signs in order to see them better

Suggestions about snakes:

- tell the age of snakes (1)
- get more snakes (1)
- have less snakes and put them all in one tank (1)
- and bring out snakes more often to see and touch (1)

*How long, on average, do visitors spend viewing the inside and outside components of the Reptile Section exhibits?*

The 101 visitors who viewed in small groups or as individuals toured the Reptile Section in groups of from one to eight, with most groups consisting of two or three visitors. They viewed the inside of the Reptile Section for an average of 2.94 minutes, with a range of 10 seconds to 10 minutes and 25 seconds. They viewed the outside of the exhibit for an average of 2.26 minutes, with a range of 15 seconds to 8 minutes and 5 seconds. (It may be useful to note that 30 seconds is considered a fairly good average viewing time for museum exhibits, although the two halves of the museum are larger than many museum exhibits.)

*How do visitors use the Reptile Section? What behaviors do they engage in during their visit?*

Visitors viewed the exhibits in many different ways. For instance, on the inside, without the railing, they got up close to the glass to see animals (13). Both inside and outside, visitors picked children up to see upper cases (4); just glanced at cases (3); leaned down to see cases (2); read signs silently (2); never looked at the exhibit while they walked past (2); tapped on the glass (1); or climbed on the railing to see cases (1).

**Summary and Conclusions:**

Based on the collected data, most visitors did not indicate a specific interest in learning particular information about reptiles, although most indicated they did have some interest in reptiles, particularly snakes. A few did mention specific things they wished to learn about reptiles from their visit, as well as suggestions for improving the forms of visual communication in the exhibit.

Of the thirty visitors interviewed after they viewed the Reptile Section, many indicated they had learned many things, mostly about snakes, from their visit, describing specific facts, such as that there are different rattlesnakes and where they live in Arizona. It is interesting to note that by far the fact most frequently described by visitors was the information contained on the school-group-developed sign about the difference between "venomous" and "poisonous". This particular sign, in contrast to the others contained in the exhibit, contained a clear, simple message with a thought-provoking question at the top. It would appear that the design of this particular form of visual communication was more effective than the design of the smaller signs contained in the exhibit.

During observations it appeared that visitors do not read the small signs accompanying the exhibits, possibly because many of the signs are quite high and the print is small, as visitors mentioned later. Visitors were often observed, however, reading the names of the reptiles aloud. While most visitors made positive comments about the forms of visual communication in the reptile exhibit, almost half suggested improvements, such as making the signs bigger or lower, making the print bigger, or including more interesting information.

The results of this study suggest several design implications for visual communication in outdoor educational settings. Several guidelines are listed below to help designers improve the effectiveness of visual communication in these types of settings in the future:

1) Arouse learner curiosity with a simple, yet thought-provoking question or title.
2) Below the opening question, have a clear, succinct answer.
3) Use simple, clear language.
4) Use large, clear text.
5) Do not put too much text on any one sign.
6) Utilize pictures and graphics to help learners see to what the text is referring.

## BIBLIOGRAPHY

Bitgood, S. (1991). Suggested guidelines for designing interactive exhibits. Visitor Behavior, 6(4), 4-11.

Doering, Z. (1992, March/April). Environmental impact. Museum News, pp. 50-52.

Korenic, M.S., & Young, A.M. (1991). The rain forest in Milwaukee: An evaluation. Curator, 34(2), 144-160.

McManus, P. M., (1989). Oh, yes, they do: How museum visitors read labels and interact with exhibit texts. Curator, 32(3), 174-191.

Milan, L.M., & Wourms, M.K. (1992). A zoological park is not just another museum. Curator, 35(2), 120-129.

O'Brien, M., & Wetzel, J.A. (1992). What's visitor evaluation all about? Report on a workshop conducted at the Baltimore Aquarium and the Maryland Science Center. Visitor Behavior, 7(2), 5-11.